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EXAMINER	
CHIO, TAT CHI	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/825,468	TANNER, CHRIS	
	Examiner	Art Unit	
	TAT CHI CHIO	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Regarding claims 9 and 10, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

2. Regarding claim 13, the phrase "e.g." renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

3. Claim 6 recites the limitation "above". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Nonaka et al. (US 2001/0026504 A1).

Consider claim 1, Nonaka et al. teach an audio DVD-CD device, comprising: a playback system for playing audio from both CD and DVD discs ([0054] and [0093]); a data manager located within said playback system ([0056]); and a user-accessible button panel and an on screen display both electronically connected to said playback

system, for duplicating the functionality of a DVD selection panel so as to enable a user to make selections that appear on the screen even though no video portion of the DVD is displayed (Fig. 12).

Consider claim 2, Nonaka et al. teach The device, wherein said playback system further comprises: a data bus (the wire between the system controller and the servo controlling circuit in Fig. 1 is the data bus because the signal travels between these two components); a disc motor for rotating the disc (11 of Fig. 1), responsive to signals sent along the bus, an optical pickup (OPU) subsystem (12 of Fig. 1), for obtaining data from the disc; and a signal amplifier (13 of Fig. 1), servo error detector (17 of Fig. 1), servo control subsystem (19 of Fig. 1), and a plurality of servo drivers (Fig. 1), all connected to the disc motor.

Consider claim 13, The device, wherein a console display controller retrieves decoded non-stripped digital video data, decodes the information where possible, and communicates with the console display which shows system information (Fig. 7 and Fig. 12), e.g. configuration menus, time, channel volume, language, and scene; wherein a video processor separates bitmap signals from other non-video data modules and then interprets and displays them onto the console display, and retrieves bitstream information from the bus after being routed through the MPEG interface and the post-parser, decodes that data, and provides all displayable portions of the resulting decoded information to the console displays (Fig. 12 shows that the display content on the display is the displayable portions of the resulting decoded information).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nonaka et al. (US 2001/0026504 A1) in view of Yamamoto (US 6,262,545 B1).

Consider claim 3, Nonaka et al. teach all the limitations in claims 1 and 2 but do not explicitly teach the device, wherein the disc motor includes a collection of spindle motors which rotate the disc to a variety of desired speeds depending on whether a CD or DVD is being operated, various user selections, and internal resistance factors.

Yamamoto teaches the device, wherein the disc motor includes a collection of spindle motors which rotate the disc to a variety of desired speeds depending on whether a CD or DVD is being operated (col. 4, lines 24-32), various user selections, and internal resistance factors (claim 3). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the known technique for controlling the spindle motor to improve the device taught by Nonaka et al. to reduce the loss of the spindle motor.

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nonaka et al. (US 2001/0026504 A1) in view of Yamamoto (US 6,262,545 B1) as applied to claims 1-3 above, and further in view of Tanihira et al. (5,828,859).

Consider claim 4, Nonaka and Yamamoto teach all the limitations in claims 1-3 and teach the device, wherein the servo drivers output signals to the disc motor to drive and control the rate of rotations of the various motors contained in disc motor, where the servo drivers also output signals to position the OPU on the desired location of the disc to focus the laser beam onto disc and to track the recorded spiral pits on disc (col. 4, lines 24-32); but do not teach wherein the bus has an arbitrator and devices connected thereto make bus access requests of the arbitrator prior to obtaining access, where each access request is typically processed according to a priority scheme, which is typically based on the priority given to a specific device and the order in which the bus access requests are received;

Tanihira et al. teach further wherein the bus has an arbitrator and devices connected thereto make bus access requests of the arbitrator prior to obtaining access, where each access request is typically processed according to a priority scheme, which is typically based on the priority given to a specific device and the order in which the bus access requests are received (col. 1, lines 26-57). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply a known priority scheme to the bus to control the devices' access to the bus.

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nonaka et al. (US 2001/0026504 A1) in view of Yamamoto (US 6,262,545 B1) and Tanihira et al. (5,828,859) as applied to claims 1-3 above, and further in view of Aatresh (6,067,301).

Consider claim 5, Nonaka et al, Yamamoto, and Tanihira et al. teach all the limitations in claims 1-4 but do not explicitly teach the device, wherein the priority scheme is set up so that no device monopolizes the bus, thereby avoiding the starving of the other devices; and further wherein the arbitrator has a queuing module designed to share the bus so that no device attached therein can use more than approximately 40% of the bus's total available bandwidth.

Aatresh teaches the device, wherein the priority scheme is set up so that no device monopolizes the bus, thereby avoiding the starving of the other devices (col. 1, lines 52-67); and further wherein the arbitrator has a queuing module designed to share the bus so that no device attached therein can use more than approximately 40% of the bus's total available bandwidth (col. 1, lines 52-67). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the known technique of limiting the bandwidth assigned to a device no more than 40% to use the total bandwidth more efficiently.

7. Claims 6-12 and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nonaka et al. (US 2001/0026504 A1) in view of Yamamoto (US 6,262,545 B1), Tanihira et al. (5,828,859) and Aatresh (6,067,301) as applied to claims 1-3 above, and further in view of Chen (US 2004/0005145 A1).

Note: the phrase "can" and "can be' recited in claim 6 do not positively support claim limitations, therefore, the limitation after these phrases will not be considered as claimed limitations. However, the cited reference teaches the limitations (see rejection).

Consider claim 6, Nonaka et al., Yamamoto, Tanihira et al., and Aatresh teach all the limitations in claims 1-5 but do not explicitly teach the device, wherein the various components of the playback system can be located on one integrated circuit die, but also can be separate non-integrated components in any combination (claim 11); wherein the playback system can accept data from pre-fabricated CD/DVD modules that already have all the logic for sensing data from the disc lenses, motors, and optical devices, so that the OPU, motor, error detector, and control subsystem are unused and instead the above connected directly to the pre-fabricated disc sensing mechanisms

Chen teaches the device, wherein the various components of the playback system can be located on one integrated circuit die, but also can be separate non-integrated components in any combination (claim 11); wherein the playback system can accept data from pre-fabricated CD/DVD modules that already have all the logic for sensing data from the disc lenses, motors, and optical devices, so that the OPU, motor, error detector, and control subsystem are unused and instead the above connected directly to the pre-fabricated disc sensing mechanisms (Fig. 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to package all the components of the playback system on one integrated circuit to reduce the cost of the system.

Consider claim 7, Chen further teaches The device of claim 6, wherein the data manager is optimized to separate and process audio information read from a disc by receiving inputs from signal amplifier and servo error control signals from the servo error

detector; and further wherein the data manager performs servo operations, bit clock and data extraction, conversion of analog input signals to digital signals, sync detection and demodulation of CD and DVD data, error detection and correction of CD and DVD data, de-scrambling of DVD data, and links directly to the bus (Fig. 6).

Consider claim 8, Nonaka et al., Yamamoto, Tanihira et al., Aatresh, and Chen teach the device, wherein the data manager further comprises: a read channel subsystem (12 of Fig. 1 of Nonaka et al.); a CD digital signal processor and an associated memory (17 of Fig. 1 of Nonaka et al.); a DVD digital signal processor (DSP) and an associated memory (17 of Fig. 1 of Nonaka et al.); a block decoder along with an associated memory, connected to both signal processors (22 of Fig. 1 of Nonaka et al.); an Advanced Technology Attachment Packet Interface (ATAPI) interface (90 of Fig. 5 of Chen); and a host system central processing unit (CPU) connected to the ATAPI interface and the read channel subsystem (10 of Fig. 1 of Nonaka et al.); wherein the read channel subsystem extracts bit clock and bit data information commonly associated with CDs and DVDs from the output of the signal amplifier (13 of Fig. 1 of Nonaka et al.) and receives the equalized signal from signal amplifier and converts the analog signal to digital using baseline tracking techniques, where it then extracts clock and data information (14 of Fig. 1 of Nonaka et al.); and further wherein the CD-DSP demodulates channel bits read from a CD into data bytes and performs error detection and correction on the data bytes (15 of Fig. 1 of Nonaka et al.), while a memory coupled to the CD-DSP facilitates de-interleaving, error detection, and error correction

operations, and the block decoder performs data block error correction on the CD data and converts the data blocks received from CD-DSP into CD blocks (Fig. 5 of Chen).

Consider claim 9, Nonaka et al., Yamamoto, Tanihira et al., Aatresh, and Chen the device, wherein the ATAPI interface facilitates the transfer of CD data blocks (90 of Fig. 5 of Chen) and DVD sector data to the host system CPU using the system bus, while the MPEG decoder decompresses and separates the compressed audio and video data where most of the decompressed video data is stripped off and discarded (Fig. 12 of Nonaka et al., since only the Genre and Performer are displayed on the display portion, any video contained in the DVD are discarded), although a minimal amount is interpreted potentially for displaying choices to a user where applicable; and further wherein the CPU performs various housekeeping functions such as register configuration or initial setup of the playback system of the present invention by providing read and write capabilities for the various registers and memory locations, and also monitors the flow of data within the various components therein, and also assists in controlling the MPEG decoder (claim 13 of Chen).

Note: the phrase "can" recited in claim 10 does not positively support claim limitations, therefore, the limitation after these phrases will not be considered as claimed limitations. However, the cited reference teaches the limitations (see rejection).

Consider claim 10, Nonaka et al., Yamamoto, Tanihira et al., Aatresh, and Chen teach device, wherein the ATAPI receives and parses the encoded multimedia

bitstream from the block decoder, and the pre-parser determines the substream membership of each data packet from the packet header (Fig. 6 of Nanaka et al.) and routes the packet contents minus identifying fields from the packet header to the appropriate elementary bitstream buffer in memory where they wait on the availability of the associated module to begin being processed, while certain data packets are retrieved directly from the appropriate buffer in memory by the associated module (claim 15 of Chen); and further wherein data packets having variable-length encoded data such as compressed audio and video are passed to the post-parser which can parse the bitstream syntax and perform elementary operations (claim 15 of Aatresh) such as extracting the bit allocation and scaling information from the headers as well as apply that information to convert the variable-length encoded data into fixed-length transform coefficients which are easier for subsequent modules to process.

Consider claim 11, Nonaka et al., Yamamoto, Tanihira et al., Aatresh, and Chen teach the device, wherein the data manager further comprises: no ATAPI interface; a read channel subsystem (12 of Fig. 1 of Nonaka et al), a CD-DSP preprocessor (17 of Fig. 1 of Nonaka et al) and a DVD-DSP preprocessor coupled thereto (17 of Fig. 1 of Nonaka et al); a multiplexer for receiving signals from the CD-DSP preprocessor and DVD-DSP preprocessor (190 of Fig. 8 of Aatresh); an error code correction and detection (ECCD) subsystem (Fig. 5 of Nonaka et al.), an MPEG interface (70 of Fig. 6

of Chen); a single unified multi-port memory connected to all the above devices (Fig. 6 of Chen); wherein the ECCD subsystem is responsible for performing error detection and correction for both CD and DVD data (Fig. 5 of Chen), and reads CD or DVD data written to the memory subsystem by a CD-DSP preprocessor or a DVD-DSP preprocessor (Fig. 5 of Chen), using non-sequential memory read operations which allow de-interleaving of the data that is read out, and performs error detection and correction on the data as defined by the Red Book standard for CD data and by standards published by the DVD consortium for DVD data, where the corrected data is written back to memory subsystem (Fig. 6 of Chen).

Consider claim 12, Nonaka et al., Yamamoto, Tanihira et al., Aatresh, and Chen teach the device, wherein the memory subsystem provides memory resources for internal operations of the data manager and provides a common memory resource for processing performed by CD-DSP preprocessor, DVD-DSP preprocessor and ECCD subsystem, and provides memory resources for storing data processed by these preprocessors (Fig. 4 of Chen shows a unified memory for providing resources to all the components in the device).

Consider claim 14, Nonaka et al., Yamamoto, Tanihira et al., Aatresh, and Chen teach the device, wherein decision making data regarding advancing the DVD is sometimes available which can be parsed and interpreted for the console display controller ([0020] of Chen); wherein the video processor further comprises a memory is used to buffer, strip, and interpret the video information if possible (claim 15 of Chen);

and further wherein a `.phi.` symbol or warning beep or noise is displayed if the user makes an illogical choice ([0086]-[0089] of Nonaka et al.).

Consider claim 15, Nonaka et al., Yamamoto, Tanihira et al., Aatresh, and Chen teach the device, wherein the audio processor receives audio data from the post-parser through the bus, and is configurable to parse the audio bitstream side information from data header fields and to convert transform coefficients into digital audio samples ([0059] of Nonaka et al), and is further configurable to re-assemble LPCM audio data into digital audio samples ([0061]); wherein the audio processor may be configured to retrieve audio data directly from the elementary audio bitstream buffer from the post-parser with the permission of the bus arbitrator (Fig. 1 and col. 1, lines 26-57), or may also be configured to receive audio data directly from the MPEG decoder where it tracks the location of the next byte to be retrieved using an audio bypass buffer pointer, and maintains a loose synchronization with the MPEG decoder to avoid introducing any undesired delays between reproduced audio signals.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TAT CHI CHIO whose telephone number is (571)272-9563. The examiner can normally be reached on Monday - Thursday 9:00 AM-5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thai Tran can be reached on (571)-272-7382. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/T. C. C./
Examiner, Art Unit 2621

/Thai Tran/
Supervisory Patent Examiner, Art Unit 2621